ARMY MEDICAL SERVICE GRADUATE SCHOOL
WALTER REED ARMY MEDICAL CENTER
WASHINGTON 12, D.C.

IN REPLY REFER TO

September 21, 1953

Prof. J. Lederberg
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University of Wisconsin
College of Agriculture
Madison, Wisconsin

Dear Joshua,

Let me first offer my congratulations on your recent achievements. I had hoped to be at the SAB meetings but was unable to make it. I have just returned from leave which may explain the ~~tardy~~ delay in answering your letter.

I have not seen Larry Weed lately, but have heard that his manuscript was accepted by the J. Bact. and should be published shortly. There may possibly be a copy of the manuscript on file here which could be sent you. I am not sure of Larry's exact address other than Johns Hopkins, Baltimore. However, I can get his complete address, if you don't already have it.

As far as the two E. coli cultures are concerned, neither have the XII factor. Culturally, the D-139 strain is interesting in that the colonies take on a donut-shaped appearance within about 48 hours. We noticed a similar colonial appearance in a Shigella alkalescens culture which carried a phage. The cultures have not been examined in detail, but there is a reference for the D-139 (Van Oye- Ann. Institut. Past. 81, pg 684 Dec. 1951).

With regard to the Vi phage transductions, our earliest experiments, reported in the ~~last~~ note, were confined to the xylose factor. However, if a cell suspension(Xyl- Arab-) is treated with a lysate from a Xyl+ Arab+ strain and plated on EMB xylose and EMB arabinose, considerably more positives appear on the arabinose plates(linearly related to the number of phage particles used)than occur on the xylose plates. As an explanation, it would seem that xylose is extremely inhibitory ~~to~~ to the cells and may affect the expression of some of the cells. This may also explain the complete lack of spontaneous mutants on xylose control plates.

We have completed some reconstruction experiments as you had suggested with encouraging results. Using the precipitin reaction with antibody excess, it has been possible to concentrate 10^4 cells (Vi positive) in the presence of 10^{10} cells of strain 0901. The Vi cells can then be detected on agar plates using oblique lighting. Both strains were marked and could be checked selectively as a control after each washing of the precipitate.

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Our present difficulty lies in developing a phage which will act from Vi to non-Vi forms. We have a strain of H901 which is carrying a Vi phage giving plaques on S. typhi phage type A. Our vi positive variant which was isolated from this strain of H901 by mouse passage was found to be untypable by the adapted phages. This was confirmed by P. R. Edwards who indicated that the failure of this culture to react with the group II phages may be due to the fact that it is carrying a Vi phage active against strain A. We have received a number of cultures from Edwards which were isolated in the W form and which are carrying Vi phages. In our experience, these cultures appear to be mixed V and W forms and do not seem to offer a clear cut model for transduction of the Vi antigen. Possibly our H901 culture from which we have isolated the one Vi positive variant offers the same difficulty. We would very much appreciate any suggestions along these lines which you may have.

As a sideline, we have started examining some Shigella cultures, but have encountered some difficulties particularly with phage P2(B) in our preliminary experiments.

I recall your mentioning something about the whereabouts of John Jacquez (Stuyvesant). I received a card from a John A. Jacquez, 1st Lt., M.C., Army Medical Research Lab., Fort Knox, Kentucky and suspect that this may be the person in question.

Sincerely yours,

Lou Baron

Lou Baron

P.S. I regret to say that the pictures I took ~~did~~ suffered from faulty synchronization of my flash attachment. As a poor substitute I am enclosing a few pictures takenat the CSH meetings.